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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,679	02/27/2004	Hyeon-Yong Jang	1190860-991440	7546

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EXAMINER

A, MINH D

ART UNIT PAPER NUMBER

2821

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/789,679

**Applicant(s)**

JANG, HYEON-YONG

**Examiner**

Minh D. A

**Art Unit**

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 12, 13, 19-21 and 25-27 is/are rejected.
- 7) ☒ Claim(s) 2-11, 14-18 and 22-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/18/05</u> | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 12-13, 19-20 and 25-27 are rejected under 35 U.S.C. 102(b) as being unpatentable by Chang et al (US 6,218,773).

Regarding claim 1, Chang discloses an apparatus comprising: a lamp unit (1pL lamps) having a load; a current restricting unit (elements 15-30) that adjusts the load on the lamp unit, wherein the current restricting unit (15-30) is coupled to the lamp unit (CIP); a current sensing unit (6) for determining a total current flow through the lamp unit, wherein the current sensing unit (6) is coupled to the current restricting unit (15-30); and a current control unit (7) for adjusting a current supply to the lamp unit based on the total current flow. See figures 2-5, col.5, lines 24-67 to col.10, lines 1-22.

Regarding claim 12, Chang discloses that, the current sensing unit (6) comprises a diode unit (D5) coupled to the lamp unit for generating a half-wave rectified voltage at an output of the lamp unit and forwarding the half-wave-rectified voltage to the selection block. See figure 2.

Regarding claim 13, Chang discloses that, the diode unit (D5) comprises a first diode (17) and a second diode (11) that are connected to the lamp unit in parallel, the first diode allowing current to flow into the lamp unit and the second diode allowing

current to flow out of the lamp unit and to the selection block. See figures 2-3, col.5, lines 24-67 to col.7, line 1-24.

Regarding claim 19, Chang discloses that the selection block further comprises a current restricting resistor coupled to the lamp output and the second input of the comparator. See figure 2.

Regarding claim 20, Chang discloses the selection block increases the load on the lamp unit in response to the total current flow's exceeding a predetermined magnitude for a predetermined time period. See figures 2-5.

Regarding claim 21, Chang discloses the apparatus comprising: a first lamp and a second lamp coupled in a parallel to configuration; a first current restricting (elements 15-30) subunit that is coupled to the first lamp and a second current restricting (15-30) subunit that is coupled to the second lamp; a first current sensing subunit (18) that is coupled to the first lamp for determining a first current flow through the first lamp and a second current sensing (Rf) subunit that is coupled to the second lamp for determining a second current flow through the second lamp; and a current control unit (7) that sums the first current flow and the second current flow to generate a total current flow, and adjusts a current supply to the first lamp and the second lamp based on the total current flow. See figures 2-5, col.5, lines 24-67 to col.10, lines 1-22.

Regarding claim 25, Chang discloses that, the first selection block is coupled to a first summing resistor and the second selection block is coupled to a second summing resistor, wherein the first summing resistor and the second summing resistor are coupled to a feedback loop to the current control unit. See figures 2-5.

Regarding claim 26, Chang discloses an element (15-30) for monitoring a current output from each of a plurality of lamps; increasing a load on one of the lamps upon detecting a current output exceeding a predetermined magnitude for at least a predetermined time period; summing the current output from each of the plurality of lamps to determine a total current flow through the lamps; and a control (7) for adjusting current input to the lamps based on the total current flow. See figures 2-5, col.5, lines 24-67 to col.10, lines 1-22.

Regarding claim 27, Chang discloses a light assembly comprising a lamp unit; a current restricting unit that adjusts a load on the lamp unit, wherein the current restricting unit is coupled to the lamp unit; a current sensing unit that determines a total current flow through the lamp unit, wherein the current sensing unit is coupled to the current restricting unit; and a current control unit that adjusts a current supply to the lamp unit based on the total current flow. See figures 2-5, col.5, lines 24-67 to col.10, lines 1-22.

### ***Allowable Subject Matter***

3. Claims 2-11 and 14-18 and 22-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art does not that, the current restricting unit comprises: a comparing block that compares a voltage at an output end of the lamp unit against reference voltage; and a selection block that directs a current from the lamp unit to the comparing

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block, wherein the selection block is coupled to the comparing block and the current sensing block recited in dependent claim 2.

The prior art does not teach that, the lamp unit includes a first lamp and a second lamp coupled in a parallel configuration, the current restricting unit includes a first current restricting subunit that is coupled to the first lamp and a second current restricting subunit that is coupled to the second lamp, and the current sensing unit includes a first current sensing subunit that is coupled to the first lamp and a second current sensing subunit that is coupled to the second lamp, the apparatus further comprising: a first capacitor coupled to an input to one of the lamps; and a second capacitor coupled to an input to another one of the lamps, wherein the first capacitor and the second capacitor control magnitudes of current flowing into the respective lamps recited in dependent claim 14.

The prior art does not teach that, the first current sensing subunit comprises: a first comparing unit that compares a voltage at an output end of the first lamp against a reference voltage, the first comparing unit including a first comparator having a first inverting input, a first non-inverting input, and a first comparator output; and a first selection block coupled to the first comparing unit; and the second current sensing subunit comprises: a second comparing unit that compares a voltage at an output end of the second lamp against the reference voltage, the second comparing unit including a second comparator having a second inverting input, a second non-inverting input, and a second comparator output; and a second selection block coupled to the second comparing unit in dependent claim 22.


**Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mirskiy et al (US 5,973,455) and Lin et al. (US 6,396,722) are cited to show a high efficiency adaptive DC/AC converter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Minh A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 –2:30 PM).

If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and (703) 872-9319 for final communications.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (571) 272-1553.

  
Don Wong  
Supervisory Patent Examiner  
Technology Center 2800

Examiner

Minh A

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4/27/05